SEQUENCE LISTING

<110> MAXYGEN APS

<120> N-TERMINALLY EXTENDED POLYPEPTIDES

<130> 0217us210

<170> PatentIn Ver. 2.1

<210> 1
<211> 497
<212> PRT
<213> Homo sapiens

<220>
<221> MOD_RES
<222> (495)
<223> R or H

<400> 1
Ala Arg Pro Cys Ile Pro Lys Ser Phe Gly Tyr Ser Ser Val Val Cys
1 5 10 15

Val Cys Asn Ala Thr Tyr Cys Asp Ser Phe Asp Pro Pro Thr Phe Pro
20 25 30

Ala Leu Gly Thr Phe Ser Arg Tyr Glu Ser Thr Arg Ser Gly Arg Arg
35 40 45

Met Glu Leu Ser Met Gly Pro Ile Gln Ala Asn His Thr Gly Thr Gly
50 55 60

Leu Leu Leu Thr Leu Gln Pro Glu Gln Lys Phe Gln Lys Val Lys Gly
65 70 75 80

Phe Gly Gly Ala Met Thr Asp Ala Ala Ala Leu Asn Ile Leu Ala Leu
85 90 95

Ser Pro Pro Ala Gln Asn Leu Leu Leu Lys Ser Tyr Phe Ser Glu Glu
100 105 110

Gly Ile Gly Tyr Asn Ile Ile Arg Val Pro Met Ala Ser Cys Asp Phe
115 120 125

Ser Ile Arg Thr Tyr Thr Tyr Ala Asp Thr Pro Asp Asp Phe Gln Leu
130 135 140

His Asn Phe Ser Leu Pro Glu Glu Asp Thr Lys Leu Lys Ile Pro Leu
145 150 155 160

Ile His Arg Ala Leu Gln Leu Ala Gln Arg Pro Val Ser Leu Leu Ala
165 170 175

Ser Pro Trp Thr Ser Pro Thr Trp Leu Lys Thr Asn Gly Ala Val Asn
180 185 190

Gly Lys Gly Ser Leu Lys Gly Gln Pro Gly Asp Ile Tyr His Gln Thr
195 200 205

Trp Ala Arg Tyr Phe Val Lys Phe Leu Asp Ala Tyr Ala Glu His Lys
210 215 220

Leu Gln Phe Trp Ala Val Thr Ala Glu Asn Glu Pro Ser Ala Gly Leu
225 230 235 240

Leu Ser Gly Tyr Pro Phe Gln Cys Leu Gly Phe Thr Pro Glu His Gln
245 250 255

Arg Asp Phe Ile Ala Arg Asp Leu Gly Pro Thr Leu Ala Asn Ser Thr
260 265 270

His His Asn Val Arg Leu Leu Met Leu Asp Asp Gln Arg Leu Leu Leu
275 280 285

Pro His Trp Ala Lys Val Val Leu Thr Asp Pro Glu Ala Ala Lys Tyr
290 295 300

Val His Gly Ile Ala Val His Trp Tyr Leu Asp Phe Leu Ala Pro Ala
305 310 315 320

Lys Ala Thr Leu Gly Glu Thr His Arg Leu Phe Pro Asn Thr Met Leu
325 330 335

Phe Ala Ser Glu Ala Cys Val Gly Ser Lys Phe Trp Glu Gln Ser Val
340 345 350

Arg Leu Gly Ser Trp Asp Arg Gly Met Gln Tyr Ser His Ser Ile Ile
355 360 365

Thr Asn Leu Leu Tyr His Val Val Gly Trp Thr Asp Trp Asn Leu Ala
370 375 380

Leu Asn Pro Glu Gly Gly Pro Asn Trp Val Arg Asn Phe Val Asp Ser
385 390 395 400

Pro Ile Ile Val Asp Ile Thr Lys Asp Thr Phe Tyr Lys Gln Pro Met
405 410 415

Phe Tyr His Leu Gly His Phe Ser Lys Phe Ile Pro Glu Gly Ser Gln
420 425 430

Arg Val Gly Leu Val Ala Ser Gln Lys Asn Asp Leu Asp Ala Val Ala
435 440 445

Leu Met His Pro Asp Gly Ser Ala Val Val Val Val Leu Asn Arg Ser
450 455 460

Ser Lys Asp Val Pro Leu Thr Ile Lys Asp Pro Ala Val Gly Phe Leu
465 470 475 480

Glu Thr Ile Ser Pro Gly Tyr Ser Ile His Thr Tyr Leu Trp Xaa Arg
485 490 495

Gln

<210> 2
<211> 1551
<212> DNA
<213> Homo sapiens

<400> 2
atggctggca gcctcacagg attgcttcta cttcaggcag tgtcgtgggc atcaggtgcc 60
cgcccctgca tccctaaaag cttcggctac agctcggtgg tgtgtgtctg caatgccaca 120
tactgtgact cctttgaccc cccgaccttt cctgcccttg gtaccttcag ccgctatgag 180
agtacacgca gtgggcgacg gatggagctg agtatggggc ccatccaggc taatcacacg 240
ggcacaggcc tgctactgac cctgcagcca gaacagaagt tccagaaagt gaagggattt 300
ggaggggcca tgacagatgc tgctgctctc aacatccttg ccctgtcacc ccctgcccaa 360
aatttgctac ttaaatcgta cttctctgaa gaaggaatcg gatataacat catccgggta 420
cccatggcca gctgtgactt ctccatccgc acctacacct atgcagacac ccctgatgat 480
ttccagttgc acaacttcag cctcccagag gaagatacca agctcaagat acccctgatt 540
caccgagcac tgcagttggc ccagcgtccc gtttcactcc ttgccagccc ctggacatca 600
cccacttggc tcaagaccaa tggagcggtg aatgggaagg ggtcactcaa gggacagccc 660
ggagacatct accaccagac ctgggccaga tactttgtga agttcctgga tgcctatgct 720
gagcacaagt tacagttctg ggcagtgaca gctgaaaatg agccttctgc tgggctgttg 780
agtggatacc ccttccagtg cctgggcttc acccctgaac atcagcgaga cttaattgcc 840
cgtgacctag gtcctaccct cgccaacagt actcaccaca atgtccgcct actcatgctg 900
gatgaccaac gcttgctgct gccccactgg gcaaaggtgg tgctgacaga cccagaagca 960
gctaaatatg ttcatggcat tgctgtacat tggtacctgg actttctggc tccagccaaa 1020
gccaccctag ggagacacaa ccgcctgttc cccaacacca tgctctttgc ctcagaggcc 1080
tgtgtgggct ccaagttctg ggagcagagt gtgcggctag gctcctggga tcgagggatg 1140
cagtacagcc acagcatcat cacgaacctc ctgtaccatg tggtcggctg gaccgactgg 1200
aaccttgccc tgaaccccga aggaggaccc aattgggtgc gtaactttgt cgacagtccc 1260
atcattgtag acatcaccaa ggacacgttt tacaaacagc ccatgttcta ccaccttggc 1320
catttcagca agttcattcc tgagggctcc cagagagtgg ggctggttgc cagtcagaag 1380
aacgacctgg acgcagtggc attgatgcat cccgatggct ctgctgttgt ggtcgtgcta 1440
aaccgctcct ctaaggatgt gcctcttacc atcaaggatc ctgctgtggg cttcctggag 1500
acaatctcac ctggctactc cattcacacc tacctgtggc gtcgccagtg a 1551

<210> 3
<211> 6186
<212> DNA
<213> Artificial sequence
<220>
<221> exon
<222> (1225)..(1572)
<223> Coding sequence for human FSH-alpha
<400> 3
gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60

ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120

cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180

ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240

gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300

tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360

cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420

attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480

atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt 540

atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca 600

tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg 660

actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc 720

aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg 780

gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca 840

ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagc 900

ttattgcggt agtttatcac agttaaattg ctaacgcagt cagtgcttct gacacaacag 960

tctcgaactt aagctgcagt gactctctta aggtagcctt gcagaagttg gtcgtgaggc 1020

actgggcagg taagtatcaa ggttacaaga caggtttaag gagaccaata gaaactgggc 1080

ttgtcgagac agagaagact cttgcgtttc tgataggcac ctattggtct tactgacatc 1140

cactttgcct ttctctccac aggtgtccac tcccagttca attacagctc ttaaaagctt 1200

ggtaccgagc tcggatccgc cacc atg gac tac tac cgc aag tac gcc gcc 1251
Met Asp Tyr Tyr Arg Lys Tyr Ala Ala
1 5

atc ttc ctg gtg acc ctg agc gtg ttc ctg cac gtg ctg cac agc gcc 1299
Ile Phe Leu Val Thr Leu Ser Val Phe Leu His Val Leu His Ser Ala
10 15 20 25

ccc gac gtg cag gac tgc ccc gag tgc acc ctg cag gag aac ccc ttc 1347
Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro Phe
30 35 40

ttc agc cag ccc ggc gcc ccc atc ctg cag tgc atg ggc tgc tgc ttc 1395
Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys Phe
45 50 55

agc cgc gcc tac ccc acc ccc ctg cgc agc aag aag acc atg ctg gtg 1443
Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu Val
60 65 70

cag aag aac gtg acc agc gag agc acc tgc tgc gtg gcc aag agc tac 1491
Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser Tyr
75 80 85

aac cgc gtg acc gtg atg ggc ggc ttc aag gtg gag aac cac acc gcc 1539
Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr Ala
90 95 100 105

```
tgc cac tgc agc acc tgc tac tac cac aag agc taatctagag ggcccgttta   1592
Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
                110                 115

aacccgctga tcagcctcga ctgtgccttc tagttgccag ccatctgttg tttgcccctc   1652

ccccgtgcct tccttgaccc tggaaggtgc cactcccact gtcctttcct aataaaatga   1712

ggaaattgca tcgcattgtc tgagtaggtg tcattctatt ctggggggtg gggtggggca   1772

ggacagcaag ggggaggatt gggaagacaa tagcaggcat gctggggatg cggtgggctc   1832

tatggcttct gaggcggaaa gaaccagctg gggctctagg gggtatcccc acgcgccctg   1892

tagcggcgca ttaagcgcgg cgggtgtggt ggttacgcgc agcgtgaccg ctacacttgc   1952

cagcgcccta gcgcccgctc ctttcgcttt cttcccttcc tttctcgcca cgttcgccgg   2012

ctttccccgt caagctctaa atcggggcat ccctttaggg ttccgattta gtgctttacg   2072

gcacctcgac cccaaaaaac ttgattaggg tgatggttca cgtagtgggc catcgccctg   2132

atagacggtt tttcgccctt tgacgttgga gtccacgttc tttaatagtg gactcttgtt   2192

ccaaactgga acaacactca accctatctc ggtctattct tttgatttat aagggatttt   2252

ggggatttcg gcctattggt taaaaaatga gctgatttaa caaaaattta acgcgaatta   2312

attctgtgga atgtgtgtca gttagggtgt ggaaagtccc caggctcccc aggcaggcag   2372

aagtatgcaa agcatgcatc tcaattagtc agcaaccagg tgtggaaagt ccccaggctc   2432

cccagcaggc agaagtatgc aaagcatgca tctcaattag tcagcaacca tagtcccgcc   2492

cctaactccg cccatcccgc ccctaactcc gcccagttcc gcccattctc cgccccatgg   2552

ctgactaatt ttttttattt atgcagaggc cgaggccgcc tctgcctctg agctattcca   2612

gaagtagtga ggaggctttt ttggaggcct aggcttttgc aaaaagctcc cgggagcttg   2672

tatatccatt ttcggatctg atcagcacgt gatgaaaaag cctgaactca ccgcgacgtc   2732

tgtcgagaag tttctgatcg aaaagttcga cagcgtctcc gacctgatgc agctctcgga   2792

gggcgaagaa tctcgtgctt tcagcttcga tgtaggaggg cgtggatatg tcctgcgggt   2852

aaatagctgc gccgatggtt tctacaaaga tcgttatgtt tatcggcact ttgcatcggc   2912

cgcgctcccg attccggaag tgcttgacat tggggaattc agcgagagcc tgacctattg   2972

catctcccgc cgtgcacagg gtgtcacgtt gcaagacctg cctgaaaccg aactgcccgc   3032

tgttctgcag ccggtcgcgg aggccatgga tgcgatcgct gcggccgatc ttagccagac   3092

gagcgggttc ggcccattcg gaccgcaagg aatcggtcaa tacactacat ggcgtgattt   3152

catatgcgcg attgctgatc cccatgtgta tcactggcaa actgtgatgg acgacaccgt   3212
```

cagtgcgtcc gtcgcgcagg ctctcgatga gctgatgctt tgggccgagg actgccccga 3272

agtccggcac ctcgtgcacg cggatttcgg ctccaacaat gtcctgacgg acaatggccg 3332

cataacagcg gtcattgact ggagcgaggc gatgttcggg gattcccaat acgaggtcgc 3392

caacatcttc ttctggaggc cgtggttggc ttgtatggag cagcagacgc gctacttcga 3452

gcggaggcat ccggagcttg caggatcgcc gcggctccgg gcgtatatgc tccgcattgg 3512

tcttgaccaa ctctatcaga gcttggttga cggcaatttc gatgatgcag cttgggcgca 3572

gggtcgatgc gacgcaatcg tccgatccgg agccgggact gtcgggcgta cacaaatcgc 3632

ccgcagaagc gcggccgtct ggaccgatgg ctgtgtagaa gtactcgccg atagtggaaa 3692

ccgacgcccc agcactcgtc cgagggcaaa ggaatagcac gtgctacgag atttcgattc 3752

caccgccgcc ttctatgaaa ggttgggctt cggaatcgtt ttccgggacg ccggctggat 3812

gatcctccag cgcggggatc tcatgctgga gttcttcgcc caccccaact tgtttattgc 3872

agcttataat ggttacaaat aaagcaatag catcacaaat ttcacaaata aagcattttt 3932

ttcactgcat tctagttgtg gtttgtccaa actcatcaat gtatcttatc atgtctgtat 3992

accgtcgacc tctagctaga gcttggcgta atcatggtca tagctgtttc ctgtgtgaaa 4052

ttgttatccg ctcacaattc cacacaacat acgagccgga agcataaagt gtaaagcctg 4112

gggtgcctaa tgagtgagct aactcacatt aattgcgttg cgctcactgc ccgctttcca 4172

gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg ggagaggcgg 4232

tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct cggtcgttcg 4292

gctgcggcga gcggtatcag ctcactcaaa ggcggtaata cggttatcca cagaatcagg 4352

ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga accgtaaaaa 4412

ggccgcgttg ctggcgtttt tccataggct ccgcccccct gacgagcatc acaaaaatcg 4472

acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg cgtttccccc 4532

tggaagctcc ctcgtgcgct ctcctgttcc gaccctgccg cttaccggat acctgtccgc 4592

ctttctccct tcgggaagcg tggcgctttc tcaatgctca cgctgtaggt atctcagttc 4652

ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa ccccccgttc agcccgaccg 4712

ctgcgcctta tccggtaact atcgtcttga gtccaacccg gtaagacacg acttatcgcc 4772

actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg gtgctacaga 4832

gttcttgaag tggtggccta actacggcta cactagaagg acagtatttg gtatctgcgc 4892

tctgctgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg gcaaacaaac 4952

caccgctggt agcggtggtt tttttgtttg caagcagcag attacgcgca gaaaaaaagg 5012

atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagtgga acgaaaactc 5072

acgttaaggg attttggtca tgagattatc aaaaaggatc ttcacctaga tccttttaaa 5132

ttaaaaatga agttttaaat caatctaaag tatatatgag taaacttggt ctgacagtta 5192

ccaatgctta atcagtgagg cacctatctc agcgatctgt ctatttcgtt catccatagt 5252

tgcctgactc cccgtcgtgt agataactac gatacgggag ggcttaccat ctggccccag 5312

tgctgcaatg ataccgcgag acccacgctc accggctcca gatttatcag caataaacca 5372

gccagccgga agggccgagc gcagaagtgg tcctgcaact ttatccgcct ccatccagtc 5432

tattaattgt tgccgggaag ctagagtaag tagttcgcca gttaatagtt tgcgcaacgt 5492

tgttgccatt gctacaggca tcgtggtgtc acgctcgtcg tttggtatgg cttcattcag 5552

ctccggttcc caacgatcaa ggcgagttac atgatccccc atgttgtgca aaaaagcggt 5612

tagctccttc ggtcctccga tcgttgtcag aagtaagttg gccgcagtgt tatcactcat 5672

ggttatggca gcactgcata attctcttac tgtcatgcca tccgtaagat gcttttctgt 5732

gactggtgag tactcaacca agtcattctg agaatagtgt atgcggcgac cgagttgctc 5792

ttgcccggcg tcaatacggg ataataccgc gccacatagc agaactttaa aagtgctcat 5852

cattggaaaa cgttcttcgg ggcgaaaact ctcaaggatc ttaccgctgt tgagatccag 5912

ttcgatgtaa cccactcgtg cacccaactg atcttcagca tcttttactt tcaccagcgt 5972

ttctgggtga gcaaaaacag gaaggcaaaa tgccgcaaaa aagggaataa gggcgacacg 6032

gaaatgttga atactcatac tcttcctttt tcaatattat tgaagcattt atcagggtta 6092

ttgtctcatg agcggataca tatttgaatg tatttagaaa aataaacaaa taggggttcc 6152

gcgcacattt ccccgaaaag tgccacctga cgtc 6186

<210> 4
<211> 5651
<212> DNA
<213> Artificial sequence
<220>
<221> exon
<222> (1231)..(1617)
<223> Coding sequence for human FSH-beta
<400> 4
gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60

ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120

```
cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc     180

ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt     240

gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata     300

tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc     360

cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc     420

attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt     480

atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt     540

atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca     600

tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg     660

actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc     720

aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg     780

gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca     840

ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagc     900

ttattgcggt agtttatcac agttaaattg ctaacgcagt cagtgcttct gacacaacag     960

tctcgaactt aagctgcagt gactctctta aggtagcctt gcagaagttg gtcgtgaggc    1020

actgggcagg taagtatcaa ggttacaaga caggtttaag gagaccaata gaaactgggc    1080

ttgtcgagac agagaagact cttgcgtttc tgataggcac ctattggtct tactgacatc    1140

cactttgcct ttctctccac aggtgtccac tcccagttca attacagctc ttaaaagctt    1200

ggtaccgagc tcggatctat cgatgccacc atg gag acc ctg cag ttc ttc ttc    1254
                                 Met Glu Thr Leu Gln Phe Phe Phe
                                 1               5

ctg ttc tgc tgc tgg aag gcc atc tgc tgc aac agc tgc gag ctg acc     1302
Leu Phe Cys Cys Trp Lys Ala Ile Cys Cys Asn Ser Cys Glu Leu Thr
    10                  15                  20

aac atc acc atc gcc atc gag aag gag gag tgc cgc ttc tgc atc agc     1350
Asn Ile Thr Ile Ala Ile Glu Lys Glu Glu Cys Arg Phe Cys Ile Ser
25                  30                  35                  40

atc aac acc acc tgg tgc gcc ggc tac tgc tac acc cgc gac ctg gtg     1398
Ile Asn Thr Thr Trp Cys Ala Gly Tyr Cys Tyr Thr Arg Asp Leu Val
                45                  50                  55

tac aag gac ccc gcc cgc ccc aag atc cag aag acc tgc acc ttc aag     1446
Tyr Lys Asp Pro Ala Arg Pro Lys Ile Gln Lys Thr Cys Thr Phe Lys
            60                  65                  70
```

```
gag ctg gtg tac gag acg gtc cgg gtg ccc ggc tgc gcc cac cac gcc      1494
Glu Leu Val Tyr Glu Thr Val Arg Val Pro Gly Cys Ala His His Ala
        75                  80                  85

gac agc ctg tac acc tac ccc gtg gcc acc cag tgc cac tgc ggc aag      1542
Asp Ser Leu Tyr Thr Tyr Pro Val Ala Thr Gln Cys His Cys Gly Lys
    90                  95                 100

tgc gac agc gac agc acc gac tgc acc gtg cgc ggc ctg ggc ccc agc      1590
Cys Asp Ser Asp Ser Thr Asp Cys Thr Val Arg Gly Leu Gly Pro Ser
105                 110                 115                 120

tac tgc agc ttc ggc gag atg aag gag taactcgaga ctagagggcc            1637
Tyr Cys Ser Phe Gly Glu Met Lys Glu
                125

cgtttaaacc cgctgatcag cctcgactgt gccttctagt tgccagccat ctgttgtttg   1697

cccctccccc gtgccttcct tgaccctgga aggtgccact cccactgtcc tttcctaata   1757

aaatgaggaa attgcatcgc attgtctgag taggtgtcat tctattctgg ggggtggggt   1817

ggggcaggac agcaaggggg aggattggga agacaatagc aggcatgctg gggatgcggt   1877

gggctctatg gcttctgagg cggaaagaac cagctggggc tctagggggt atccccacgc   1937

gccctgtagc ggcgcattaa gcgcggcggg tgtggtggtt acgcgcagcg tgaccgctac   1997

acttgccagc gccctagcgc ccgctccttt cgctttcttc ccttcctttc tcgccacgtt   2057

cgccggcttt ccccgtcaag ctctaaatcg ggcatccct ttagggttcc gatttagtgc    2117

tttacggcac ctcgacccca aaaaacttga ttagggtgat ggttcacgta gtgggccatc   2177

gccctgatag acggtttttc gccctttgac gttggagtcc acgttcttta atagtggact   2237

cttgttccaa actggaacaa cactcaaccc tatctcggtc tattcttttg atttataagg   2297

gattttgggg atttcggcct attggttaaa aaatgagctg atttaacaaa aatttaacgc   2357

gaattaattc tgtggaatgt gtgtcagtta gggtgtggaa agtccccagg ctccccaggc   2417

aggcagaagt atgcaaagca tgcatctcaa ttagtcagca accaggtgtg gaaagtcccc   2477

aggctcccca gcaggcagaa gtatgcaaag catgcatctc aattagtcag caaccatagt   2537

cccgccccta actccgccca tcccgcccct aactccgccc agttccgccc attctccgcc   2597

ccatggctga ctaatttttt ttatttatgc agaggccgag gccgcctctg cctctgagct   2657

attccagaag tagtgaggag gcttttttgg aggcctaggc ttttgcaaaa agctcccggg   2717

agcttgtata tccattttcg gatctgatca gcacgtgttg acaattaatc atcggcatag   2777

tatatcggca tagtataata cgacaaggtg aggaactaaa ccatggccaa gttgaccagt   2837

gccgttccgg tgctcaccgc gcgcgacgtc gccggagcgg tcgagttctg gaccgaccgg   2897
```

ctcgggttct cccgggactt cgtggaggac gacttcgccg gtgtggtccg ggacgacgtg 2957
accctgttca tcagcgcggt ccaggaccag gtggtgccgg acaacaccct ggcctgggtg 3017
tgggtgcgcg gcctggacga gctgtacgcc gagtggtcgg aggtcgtgtc cacgaacttc 3077
cgggacgcct ccgggccggc catgaccgag atcggcgagc agccgtgggg gcgggagttc 3137
gccctgcgcg acccggccgg caactgcgtg cacttcgtgg ccgaggagca ggactgacac 3197
gtgctacgag atttcgattc caccgccgcc ttctatgaaa ggttgggctt cggaatcgtt 3257
ttccgggacg ccggctggat gatcctccag cgcggggatc tcatgctgga gttcttcgcc 3317
caccccaact tgtttattgc agcttataat ggttacaaat aaagcaatag catcacaaat 3377
ttcacaaata aagcattttt ttcactgcat tctagttgtg gtttgtccaa actcatcaat 3437
gtatcttatc atgtctgtat accgtcgacc tctagctaga gcttggcgta atcatggtca 3497
tagctgtttc ctgtgtgaaa ttgttatccg ctcacaattc cacacaacat acgagccgga 3557
agcataaagt gtaaagcctg gggtgcctaa tgagtgagct aactcacatt aattgcgttg 3617
cgctcactgc ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc 3677
caacgcgcgg ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac 3737
tcgctgcgct cggtcgttcg gctgcggcga gcggtatcag ctcactcaaa ggcggtaata 3797
cggttatcca cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa 3857
aaggccagga accgtaaaaa ggccgcgttg ctggcgtttt tccataggct ccgcccccct 3917
gacgagcatc acaaaaatcg acgctcaagt cagaggtggc gaaacccgac aggactataa 3977
agataccagg cgtttccccc tggaagctcc ctcgtgcgct ctcctgttcc gaccctgccg 4037
cttaccggat acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcaatgctca 4097
cgctgtaggt atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa 4157
ccccccgttc agcccgaccg ctgcgcctta tccggtaact atcgtcttga gtccaacccg 4217
gtaagacacg acttatcgcc actggcagca gccactggta acaggattag cagagcgagg 4277
tatgtaggcg gtgctacaga gttcttgaag tggtggccta actacggcta cactagaagg 4337
acagtatttg gtatctgcgc tctgctgaag ccagttacct tcggaaaaag agttggtagc 4397
tcttgatccg gcaaacaaac caccgctggt agcggtggtt tttttgtttg caagcagcag 4457
attacgcgca gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac 4517
gctcagtgga acgaaaactc acgttaaggg attttggtca tgagattatc aaaaaggatc 4577

ttcacctaga tccttttaaa ttaaaaatga agttttaaat caatctaaag tatatatgag 4637

taaacttggt ctgacagtta ccaatgctta atcagtgagg cacctatctc agcgatctgt 4697

ctatttcgtt catccatagt tgcctgactc cccgtcgtgt agataactac gatacgggag 4757
ggcttaccat ctggccccag tgctgcaatg ataccgcgag acccacgctc accggctcca 4817

gatttatcag caataaacca gccagccgga agggccgagc gcagaagtgg tcctgcaact 4877

ttatccgcct ccatccagtc tattaattgt tgccgggaag ctagagtaag tagttcgcca 4937

gttaatagtt tgcgcaacgt tgttgccatt gctacaggca tcgtggtgtc acgctcgtcg 4997

tttggtatgg cttcattcag ctccggttcc caacgatcaa ggcgagttac atgatccccc 5057

atgttgtgca aaaaagcggt tagctccttc ggtcctccga tcgttgtcag aagtaagttg 5117

gccgcagtgt tatcactcat ggttatggca gcactgcata attctcttac tgtcatgcca 5177

tccgtaagat gcttttctgt gactggtgag tactcaacca agtcattctg agaatagtgt 5237

atgcggcgac cgagttgctc ttgcccggcg tcaatacggg ataataccgc gccacatagc 5297

agaactttaa aagtgctcat cattggaaaa cgttcttcgg ggcgaaaact ctcaaggatc 5357

ttaccgctgt tgagatccag ttcgatgtaa cccactcgtg cacccaactg atcttcagca 5417

tcttttactt tcaccagcgt ttctgggtga gcaaaaacag gaaggcaaaa tgccgcaaaa 5477

aagggaataa gggcgacacg gaaatgttga atactcatac tcttcctttt tcaatattat 5537

tgaagcattt atcagggtta ttgtctcatg agcggataca tatttgaatg tatttagaaa 5597

aataaacaaa taggggttcc gcgcacattt ccccgaaaag tgccacctga cgtc 5651

<210> 5
<211> 92
<212> PRT
<213> Homo sapiens
<400> 5

Ala Pro Asp Val Gln Asp Cys Pro Glu Cys Thr Leu Gln Glu Asn Pro
1 5 10 15

Phe Phe Ser Gln Pro Gly Ala Pro Ile Leu Gln Cys Met Gly Cys Cys
20 25 30

Phe Ser Arg Ala Tyr Pro Thr Pro Leu Arg Ser Lys Lys Thr Met Leu
35 40 45

Val Gln Lys Asn Val Thr Ser Glu Ser Thr Cys Cys Val Ala Lys Ser
50 55 60

Tyr Asn Arg Val Thr Val Met Gly Gly Phe Lys Val Glu Asn His Thr
65 70 75 80

Ala Cys His Cys Ser Thr Cys Tyr Tyr His Lys Ser
85 90

<210> 6
<211> 111
<212> PRT
<213> Homo sapiens
<400> 6

Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys Glu Glu
1 5 10 15

Cys Arg Phe Cys Ile Ser Ile Asn Thr Thr Trp Cys Ala Gly Tyr Cys
20 25 30

Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys Ile Gln
35 40 45

Lys Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg Val Pro
50 55 60

Gly Cys Ala His His Ala Asp Ser Leu Tyr Thr Tyr Pro Val Ala Thr
65 70 75 80

Gln Cys His Cys Gly Lys Cys Asp Ser Asp Ser Thr Asp Cys Thr Val
85 90 95

Arg Gly Leu Gly Pro Ser Tyr Cys Ser Phe Gly Glu Met Lys Glu
100 105 110

<210> 7
<211> 6213
<212> DNA
<213> Artificial sequence
<220>
<221> exon
<222> (1225)..(1599)
<223> Coding sequence for modified FSH-alpha
<400> 7
gacggatcgg gagatctccc gatcccctat ggtcgactct cagtacaatc tgctctgatg 60

ccgcatagtt aagccagtat ctgctccctg cttgtgtgtt ggaggtcgct gagtagtgcg 120

cgagcaaaat ttaagctaca acaaggcaag gcttgaccga caattgcatg aagaatctgc 180

ttagggttag gcgttttgcg ctgcttcgcg atgtacgggc cagatatacg cgttgacatt 240

gattattgac tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata 300

tggagttccg cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc 360

cccgcccatt gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc 420

attgacgtca atgggtggac tatttacggt aaactgccca cttggcagta catcaagtgt 480

```
atcatatgcc aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt    540

atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca    600

tcgctattac catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg    660

actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc    720

aaaatcaacg ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg    780

gtaggcgtgt acggtgggag gtctatataa gcagagctct ctggctaact agagaaccca    840

ctgcttactg gcttatcgaa attaatacga ctcactatag ggagacccaa gctggctagc    900

ttattgcggt agtttatcac agttaaattg ctaacgcagt cagtgcttct gacacaacag    960

tctcgaactt aagctgcagt gactctctta aggtagcctt gcagaagttg gtcgtgaggc   1020

actgggcagg taagtatcaa ggttacaaga caggtttaag gagaccaata gaaactgggc   1080

ttgtcgagac agagaagact cttgcgtttc tgataggcac ctattggtct tactgacatc   1140

cactttgcct ttctctccac aggtgtccac tcccagttca attacagctc ttaaaagctt   1200

ggtaccgagc tcggatccgc cacc atg gac tac tac cgc aag tac gcc gcc      1251
                           Met Asp Tyr Tyr Arg Lys Tyr Ala Ala
                           1               5

atc ttc ctg gtg acc ctg agc gtg ttc ctg cac gtg ctg cac agc gcc     1299
Ile Phe Leu Val Thr Leu Ser Val Phe Leu His Val Leu His Ser Ala
10                  15                  20                  25

aac atc acc gtt aac atc acc gtg gcc ccc gac gtg cag gac tgc ccc     1347
Asn Ile Thr Val Asn Ile Thr Val Ala Pro Asp Val Gln Asp Cys Pro
                30                  35                  40

gag tgc acc ctg cag gag aac ccc ttc ttc agc cag ccc ggc gcc ccc     1395
Glu Cys Thr Leu Gln Glu Asn Pro Phe Phe Ser Gln Pro Gly Ala Pro
            45                  50                  55

atc ctg cag tgc atg ggc tgc tgc ttc agc cgc gcc tac ccc acc ccc     1443
Ile Leu Gln Cys Met Gly Cys Cys Phe Ser Arg Ala Tyr Pro Thr Pro
        60                  65                  70

ctg cgc agc aag aag acc atg ctg gtg cag aag aac gtg acc agc gag     1491
Leu Arg Ser Lys Lys Thr Met Leu Val Gln Lys Asn Val Thr Ser Glu
    75                  80                  85

agc acc tgc tgc gtg gcc aag agc tac aac cgc gtg acc gtg atg ggc     1539
Ser Thr Cys Cys Val Ala Lys Ser Tyr Asn Arg Val Thr Val Met Gly
90                  95                  100                 105

ggc ttc aag gtg gag aac cac acc gcc tgc cac tgc agc acc tgc tac     1587
Gly Phe Lys Val Glu Asn His Thr Ala Cys His Cys Ser Thr Cys Tyr
                110                 115                 120

tac cac aag agc taatctagag ggcccgttta aacccgctga tcagcctcga        1639
```

Tyr His Lys Ser
125

ctgtgccttc tagttgccag ccatctgttg tttgcccctc ccccgtgcct tccttgaccc 1699

tggaaggtgc cactcccact gtcctttcct aataaaatga ggaaattgca tcgcattgtc 1759

tgagtaggtg tcattctatt ctggggggtg gggtggggca ggacagcaag ggggaggatt 1819

gggaagacaa tagcaggcat gctggggatg cggtgggctc tatggcttct gaggcggaaa 1879

gaaccagctg gggctctagg gggtatcccc acgcgccctg tagcggcgca ttaagcgcgg 1939

cgggtgtggt ggttacgcgc agcgtgaccg ctacacttgc cagcgcccta gcgcccgctc 1999

ctttcgcttt cttcccttcc tttctcgcca cgttcgccgg ctttccccgt caagctctaa 2059

atcggggcat ccctttaggg ttccgattta gtgctttacg gcacctcgac cccaaaaaac 2119

ttgattaggg tgatggttca cgtagtgggc catcgccctg atagacggtt tttcgccctt 2179

tgacgttgga gtccacgttc tttaatagtg gactcttgtt ccaaactgga acaacactca 2239

accctatctc ggtctattct tttgatttat aagggatttt ggggatttcg gcctattggt 2299

taaaaaatga gctgatttaa caaaaattta acgcgaatta attctgtgga atgtgtgtca 2359

gttagggtgt ggaaagtccc caggctcccc aggcaggcag aagtatgcaa agcatgcatc 2419

tcaattagtc agcaaccagg tgtggaaagt ccccaggctc cccagcaggc agaagtatgc 2479

aaagcatgca tctcaattag tcagcaacca tagtcccgcc cctaactccg cccatcccgc 2539

ccctaactcc gcccagttcc gcccattctc cgccccatgg ctgactaatt ttttttattt 2599

atgcagaggc cgaggccgcc tctgcctctg agctattcca gaagtagtga ggaggctttt 2659

ttggaggcct aggcttttgc aaaaagctcc cgggagcttg tatatccatt ttcggatctg 2719

atcagcacgt gatgaaaaag cctgaactca ccgcgacgtc tgtcgagaag tttctgatcg 2779

aaaagttcga cagcgtctcc gacctgatgc agctctcgga gggcgaagaa tctcgtgctt 2839

tcagcttcga tgtaggaggg cgtggatatg tcctgcgggt aaatagctgc gccgatggtt 2899

tctacaaaga tcgttatgtt tatcggcact ttgcatcggc cgcgctcccg attccggaag 2959

tgcttgacat tggggaattc agcgagagcc tgacctattg catctcccgc cgtgcacagg 3019

gtgtcacgtt gcaagacctg cctgaaaccg aactgcccgc tgttctgcag ccggtcgcgg 3079

aggccatgga tgcgatcgct gcggccgatc ttagccagac gagcgggttc ggcccattcg 3139

gaccgcaagg aatcggtcaa tacactacat ggcgtgattt catatgcgcg attgctgatc 3199

cccatgtgta tcactggcaa actgtgatgg acgacaccgt cagtgcgtcc gtcgcgcagg 3259
ctctcgatga gctgatgctt tgggccgagg actgccccga agtccggcac ctcgtgcacg 3319

cggatttcgg ctccaacaat gtcctgacgg acaatggccg cataacagcg gtcattgact 3379

ggagcgaggc gatgttcggg gattcccaat acgaggtcgc caacatcttc ttctggaggc 3439

cgtggttggc ttgtatggag cagcagacgc gctacttcga gcggaggcat ccggagcttg 3499

caggatcgcc gcggctccgg gcgtatatgc tccgcattgg tcttgaccaa ctctatcaga 3559

gcttggttga cggcaatttc gatgatgcag cttgggcgca gggtcgatgc gacgcaatcg 3619

tccgatccgg agccgggact gtcgggcgta cacaaatcgc ccgcagaagc gcggccgtct 3679

ggaccgatgg ctgtgtagaa gtactcgccg atagtggaaa ccgacgcccc agcactcgtc 3739

cgagggcaaa ggaatagcac gtgctacgag atttcgattc caccgccgcc ttctatgaaa 3799

ggttgggctt cggaatcgtt ttccgggacg ccggctggat gatcctccag cgcggggatc 3859

tcatgctgga gttcttcgcc caccccaact tgtttattgc agcttataat ggttacaaat 3919

aaagcaatag catcacaaat ttcacaaata aagcattttt ttcactgcat tctagttgtg 3979

gtttgtccaa actcatcaat gtatcttatc atgtctgtat accgtcgacc tctagctaga 4039

gcttggcgta atcatggtca tagctgtttc ctgtgtgaaa ttgttatccg ctcacaattc 4099

cacacaacat acgagccgga agcataaagt gtaaagcctg gggtgcctaa tgagtgagct 4159

aactcacatt aattgcgttg cgctcactgc ccgctttcca gtcgggaaac ctgtcgtgcc 4219

agctgcatta atgaatcggc caacgcgcgg ggagaggcgg tttgcgtatt gggcgctctt 4279

ccgcttcctc gctcactgac tcgctgcgct cggtcgttcg gctgcggcga gcggtatcag 4339

ctcactcaaa ggcggtaata cggttatcca cagaatcagg ggataacgca ggaaagaaca 4399

tgtgagcaaa aggccagcaa aaggccagga accgtaaaaa ggccgcgttg ctggcgtttt 4459

tccataggct ccgcccccct gacgagcatc acaaaaatcg acgctcaagt cagaggtggc 4519

gaaacccgac aggactataa agataccagg cgtttccccc tggaagctcc ctcgtgcgct 4579

ctcctgttcc gaccctgccg cttaccggat acctgtccgc ctttctccct tcgggaagcg 4639

tggcgctttc tcaatgctca cgctgtaggt atctcagttc ggtgtaggtc gttcgctcca 4699

agctgggctg tgtgcacgaa ccccccgttc agcccgaccg ctgcgcctta tccggtaact 4759

atcgtcttga gtccaacccg gtaagacacg acttatcgcc actggcagca gccactggta 4819

acaggattag cagagcgagg tatgtaggcg gtgctacaga gttcttgaag tggtggccta 4879

actacggcta cactagaagg acagtatttg gtatctgcgc tctgctgaag ccagttacct 4939

tcggaaaaag agttggtagc tcttgatccg gcaaacaaac caccgctggt agcggtggtt 4999

tttttgtttg caagcagcag attacgcgca gaaaaaaagg atctcaagaa gatcctttga 5059

tcttttctac ggggtctgac gctcagtgga acgaaaactc acgttaaggg attttggtca 5119

tgagattatc aaaaaggatc ttcacctaga tccttttaaa ttaaaaatga agttttaaat 5179

caatctaaag tatatatgag taaacttggt ctgacagtta ccaatgctta atcagtgagg 5239

cacctatctc agcgatctgt ctatttcgtt catccatagt tgcctgactc cccgtcgtgt 5299

agataactac gatacgggag ggcttaccat ctggccccag tgctgcaatg ataccgcgag 5359

acccacgctc accggctcca gatttatcag caataaacca gccagccgga agggccgagc 5419

gcagaagtgg tcctgcaact ttatccgcct ccatccagtc tattaattgt tgccgggaag 5479

ctagagtaag tagttcgcca gttaatagtt tgcgcaacgt tgttgccatt gctacaggca 5539

tcgtggtgtc acgctcgtcg tttggtatgg cttcattcag ctccggttcc caacgatcaa 5599

ggcgagttac atgatccccc atgttgtgca aaaaagcggt tagctccttc ggtcctccga 5659

tcgttgtcag aagtaagttg gccgcagtgt tatcactcat ggttatggca gcactgcata 5719

attctcttac tgtcatgcca tccgtaagat gcttttctgt gactggtgag tactcaacca 5779

agtcattctg agaatagtgt atgcggcgac cgagttgctc ttgcccggcg tcaatacggg 5839

ataataccgc gccacatagc agaactttaa aagtgctcat cattggaaaa cgttcttcgg 5899

ggcgaaaact ctcaaggatc ttaccgctgt tgagatccag ttcgatgtaa cccactcgtg 5959

cacccaactg atcttcagca tcttttactt tcaccagcgt ttctgggtga gcaaaaacag 6019

gaaggcaaaa tgccgcaaaa aagggaataa gggcgacacg gaaatgttga atactcatac 6079

tcttcctttt tcaatattat tgaagcattt atcagggtta ttgtctcatg agcggataca 6139

tatttgaatg tatttagaaa aataaacaaa taggggttcc gcgcacattt ccccgaaaag 6199

tgccacctga cgtc 6213

<210> 8
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<400> 8
Ala Ser Asn Ile Xaa
  1   5

<210> 9
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (6)
<223> T or S

<400> 9
Ser Pro Ile Asn Ala Xaa
  1   5

<210> 10
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<400> 10
Ala Ser Pro Ile Asn Ala Xaa
  1   5

<210> 11
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>
<221> MOD_RES
<222> (8)
<223> T or S

<400> 11
Ala Asn Ile Xaa Ala Asn Ile Xaa Ala Asn Ile
  1   5   10

<210> 12
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (14)
<223> T or S

<400> 12
Ala Asn Ile Xaa Gly Ser Asn Ile Xaa Gly Ser Asn Ile Xaa
  1   5   10

<210> 13
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)

<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 13
Ala Ser Asn Ser Xaa Asn Asn Gly Xaa Leu Asn Ala Xaa
1 5 10

<210> 14
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<220>
<221> MOD_RES
<222> (10)
<223> T or S

<400> 14
Ala Asn His Xaa Asn Glu Xaa Asn Ala Xaa
1 5 10

<210> 15
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<400> 15
Gly Ser Pro Ile Asn Ala Xaa

1 5

<210> 16
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 16
Ala Ser Pro Ile Asn Ala Xaa Ser Pro Ile Asn Ala Xaa
1 5 10

<210> 17
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<220>
<221> MOD_RES
<222> (10)
<223> T or S

<400> 17
Ala Asn Asn Xaa Asn Tyr Xaa Asn Trp Xaa
1 5 10

<210> 18

<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (12)
<223> T or S

<400> 18
Ala Thr Asn Ile Xaa Leu Asn Tyr Xaa Ala Asn Xaa Thr
1 5 10

<210> 19
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 19
Ala Ala Asn Ser Xaa Gly Asn Ile Xaa Ile Asn Gly Xaa
1 5 10

```
<210> 20
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 20
Ala Val Asn Trp Xaa Ser Asn Asp Xaa Ser Asn Ser Xaa
  1               5                  10


<210> 21
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (5)
<223> T or S

<220>
<221> MOD_RES
<222> (9)
<223> T or S

<220>
<221> MOD_RES
<222> (13)
<223> T or S

<400> 21
Ala Val Asn Trp Xaa Ser Asn Asp Xaa Ser Asn Ser Xaa
  1               5                  10
```

<210> 22
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (4)
<223> T or S

<220>
<221> MOD_RES
<222> (7)
<223> T or S

<220>
<221> MOD_RES
<222> (10)
<223> T or S

<400> 22
Ala Asn Asn Xaa Asn Tyr Xaa Asn Ser Xaa
1 5 10

<210> 23
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 23
Ala Asn Asn Thr Asn Tyr Thr Asn Trp Thr
1 5 10

<210> 24
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker

<400> 24
Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 25
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 25
cgcagatctg atggctggca gcctcacagg attgc 35

<210> 26
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 26
ccggaattcc catcactggc gacgccacag gtaggtg 37

<210> 27
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 27
acgcgagctc gcccctgcat ccctaaaagc ttcgg 35

<210> 28
<211> 54
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 28
gcgttgacgg cagtcagagt tgacagaagg gccagccagc aaaggatagt catg 54

<210> 29
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 29

ctagcatgac tatcctttgc tggctggccc ttctgtcaac tctgactgcc gtcaacgcag 60
ct 62

<210> 30
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 30
cctgctactg ctcccagcag cagtgaaaga gtccaaagtg gcagcatg 48

<210> 31
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 31
ctagcatgct gccactttgg actctttcac tgctgctggg agcagtagca ggagct 56

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 32
cagctggcca tgggtacccg g 21

<210> 33
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
peptide addition

<400> 33
Ala Asn Ile Thr
1

<210> 34
<211> 7
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: N-terminal
peptide addition

<400> 34
Ala Ser Pro Ile Asn Ala Thr
1 5

<210> 35
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 35
tgggcatcag gtgccaacat tacagcccgc ccctgcatcc ctaaaagc 48

<210> 36
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 36
tttactgttt tcgtaacagt tttg 24

<210> 37
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 37
gcaggggcgg gctgtaatgt tggcacctga tgcccacgac actgcctg 48

<210> 38
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>

<221> MOD_RES
<222> (1)..(13)
<223> "Xaa" represents a variable amino acid

<400> 38
Ala Xaa Asn Xaa Thr Xaa Asn Xaa Thr Xaa Asn Xaa Thr
  1   5   10

<210> 39
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<220>
<221> MOD_RES
<222> (1)..(10)
<223> "Xaa" represents a variable amino acid

<400> 39
Ala Asn Xaa Thr Asn Xaa Thr Asn Xaa Thr
  1   5   10

<210> 40
<211> 81
<212> DNA
<213> Artificial Sequence

<220>
<221> modified_base
<222> (1)..(81)
<223> "n" represents a, t, c, g, other or unknown

<220>
<223> Description of Artificial Sequence: Primer

<400> 40
gtgtcgtggg catcaggtgc cnnsaaydns achdnsaayd nsachdnsaa ydnsachgcc 60
cgcccctgca tccctaaaag c 81

<210> 41
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 41
ggcacctgat gcccacgaca ctgcctg 27

<210> 42
<211> 68
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<221> modified_base
<222> (1)..(68)
<223> "nnn" is a mixture of trinucleotide codons for all
natural amino acid residues, except proline

<400> 42
cgtgggcatc aggtgccaac nnnachaayn nnachaaynn nachgcccgc ccctgcatcc 60
ctaaaagc 68

<210> 43
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 43
gttggcacct gatgcccacg acactgcctg 30

<210> 44
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (4)
<223> variable amino acid

<220>
<221> MOD_RES
<222> (12)
<223> F or L

<400> 44
Ala Phe Asn Xaa Thr Leu Asn Lys Thr Trp Asn Xaa Thr
1 5 10

<210> 45
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 45
Thr Met Asn Asn Thr Trp Asn Trp Thr Trp Asn Trp Thr
1 5 10

<210> 46
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 46
Ala Leu Asn Ser Thr Gly Asn Leu Thr Val Asp Gly Thr
1 5 10

<210> 47
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 47
Ala Ser Asn Ser Thr Phe Asn Leu Thr Glu Asn Leu Thr
1 5 10

<210> 48
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 48
Thr Arg Asn Val Thr Ile Asn Cys Thr Asn Ser Thr
1 5 10

<210> 49

<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 49
Ala Leu Asn Trp Thr Tyr Asn Gly Thr Lys Asn Val Thr
1 5 10

<210> 50
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 50
Ala Ala Asn Trp Thr Val Asn Phe Thr Gly Asn Phe Thr
1 5 10

<210> 51
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (2)
<223> variable amino acid

<220>
<221> MOD_RES
<222> (4)
<223> variable amino acid

<400> 51
Ala Xaa Asn Xaa Thr Val Asn Ser Thr Asn Val Thr
1 5 10

<210> 52
<211> 13
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 52
Ala Asn Asn Phe Thr Phe Asn Gly Thr Leu Asn Leu Thr
  1   5   10

<210> 53
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 53
Ala Gly Asn Trp Thr Ala Asn Val Thr Val Asn Val Thr
  1   5   10

<210> 54
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 54
Ala Gly Asn Ser Thr Ser Asn Val Thr Gly Asn Trp Thr
  1   5   10

<210> 55
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 55
Ala Val Asn Ser Thr Met Asn Ile His Ala Ile Pro Pro
  1   5   10

<210> 56
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

peptide

<400> 56
Ala Gly Asn Gly Thr Val Asn Gly Thr Ile Asn Gly Thr
1 5 10

<210> 57
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (8)
<223> variable amino acid

<400> 57
Ala Val Asn Ser Thr Gly Asn Xaa Thr Gly Asn Trp Thr
1 5 10

<210> 58
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 58
Ala Gly Asn Gly Thr Asn Gly Thr Ser Asn Leu Thr
1 5 10

<210> 59
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 59
Ala Met Asn Ser Thr Lys Asn Ser Thr Leu Asn Ile Thr
1 5 10

<210> 60
<211> 10
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 60
Ala Phe Asn Tyr Thr Ser Lys Asn Ser Thr
1 5 10

<210> 61
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 61
Ala Val Asn Ala Thr Met Asn Trp Thr Ala Asn Gly Thr
1 5 10

<210> 62
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 62
Ala Ser Asn Ser Thr Asn Asn Gly Thr Leu Asn Ala Thr
1 5 10

<210> 63
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 63
Ala Arg Asn Lys Thr Lys Asn Phe Thr Ile Asn Leu Thr
1 5 10

<210> 64
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 64
Ala Pro Asn Ile Thr Asn Asp Thr Val Asn Met Thr
  1   5   10

<210> 65
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 65
Ala Gln Asn Lys Thr Phe Asn Phe Thr Met Asn Cys Thr
  1   5   10

<210> 66
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 66
Ala Leu Asn Val Thr Trp Asn Cys Thr Leu Asn Leu Thr
  1   5   10

<210> 67
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 67
Ala Leu Asn Thr Thr Trp Thr Asn Leu Thr
  1   5   10

<210> 68
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 68
Ala Asn Thr Thr Asn Phe Thr Asn Glu Thr
  1   5   10

<210> 69
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 69
Ala Asn Trp Thr Asn Arg Thr Asn Cys Thr
  1   5   10

<210> 70
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 70
Ala Asn Trp Thr Asn Phe Thr Asn Trp Thr
  1   5   10

<210> 71
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 71
Pro Thr Gly Leu Ile Gly Thr Asn Phe Thr
  1   5   10

<210> 72
<211> 10
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 72
Ala Asn Trp Thr Asn Lys Thr Asn Phe Thr
  1   5   10

<210> 73
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 73
Ala Asn Asn Thr Asn Leu Thr Asn Ala Thr
  1   5   10

<210> 74
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 74
Ala Asn Tyr Thr Asn Trp Thr Asn Phe Thr
  1   5   10

<210> 75
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 75
Ala Asn Thr Thr Asn Gln Thr Asn Asp Thr
  1   5   10

<210> 76
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

peptide

<400> 76
Ala Asn Arg Thr Asn Trp Thr Asn Thr Thr
1 5 10

<210> 77
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 77
Pro Thr Ala Thr Asn His Thr Asn Ser Thr
1 5 10

<210> 78
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 78
Ala Asn Trp Thr Asn Gln Thr Asn Gln Thr
1 5 10

<210> 79
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 79
Ala Asn Trp Thr Asn Trp Thr Asn Ala Thr
1 5 10

<210> 80
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 80
Ala Asn Phe Thr Asn Lys Thr Asn Met Thr
1 5 10

<210> 81
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 81
Ala Asn His Thr Asn Glu Thr Asn Ala Thr
1 5 10

<210> 82
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<220>
<221> MOD_RES
<222> (3)
<223> C or W

<400> 82
Ala Asn Xaa Thr Asn Phe Thr Asn Glu Thr
1 5 10

<210> 83
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 83
Ala Asn Leu Asp Lys Leu His Lys His
1 5

<210> 84
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 84
Ala Asn Cys Phe Thr Asn Gln Thr Asn Phe Thr
1 5 10

<210> 85
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 85
Ala Asn Trp Thr Asn Trp Thr Asn Glu Trp Thr
1 5 10

<210> 86
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 86
Ala Asn Cys Thr Asn Trp Thr Asn Cys Thr
1 5 10

<210> 87
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 87
Cys His Pro Tyr Asn Trp Thr Asn Trp Thr
1 5 10

<210> 88
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 88
Ala Asn Glu Thr Asn Tyr Thr Asn Glu Thr
  1   5   10

<210> 89
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 89
Ala Asn Trp Thr Asn Trp Thr
  1   5

<210> 90
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 90
Ala Lys Pro Tyr Lys Ser Tyr Lys Phe Tyr
  1   5   10

<210> 91
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 91
Ala Asn Ile Thr Asn Lys Thr Asn Trp Thr
  1   5   10

<210> 92
<211> 10
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
peptide

<400> 92
Ala Asn Trp Thr Asn Met Thr Asn Ile Thr
1   5   10

<210> 93
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 93
Ala Asn Asn Thr Asn Arg Thr Asn Phe Thr
1   5   10

<210> 94
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 94
Ala Asn Trp Thr Asn Trp Thr Asn Trp Thr
1   5   10

<210> 95
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 95
Ala Asn Trp Arg Thr Asn His Thr Asn Lys Thr
1   5   10

<210> 96
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

peptide

<400> 96
Ala Asn Gln Thr Asn Ile Thr Asn Trp Thr
1 5 10

<210> 97
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 97
Ala Asn Phe Thr Asn Val Ala Thr Asn Gln Thr
1 5 10

<210> 98
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (1)
<223> most probable amino acid

<220>
<221> MOD_RES
<222> (2)
<223> most probable amino acid

<220>
<221> MOD_RES
<222> (5)
<223> variable amino acid

<220>
<221> MOD_RES
<222> (9)
<223> most probable amino acid

<400> 98
Ala Asn Thr Thr Xaa Leu Thr Asn Lys Thr
1 5 10

<210> 99
<211> 10

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (6)
<223> S or C

<400> 99
Ala Asn Lys Thr Asn Xaa Thr Asn Ile Thr
1 5 10

<210> 100
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (9)
<223> most probable amino acid

<400> 100
Ala Asn Trp Thr Asn Cys Thr Asn Ile Thr
1 5 10

<210> 101
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<220>
<221> MOD_RES
<222> (6)
<223> F or L

<400> 101
Ala Asn Trp Thr Asn Xaa Thr Asn Trp Thr
1 5 10

<210> 102
<211> 10

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 102
Cys Gln Leu Asp Arg Ser Thr Asn Glu Thr
  1   5   10

<210> 103
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 103
Ala Asn Asn Thr Asn Tyr Thr Asn Trp Thr
  1   5   10

<210> 104
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 104
Ala Asn Asn Thr Asn Tyr Thr Asn Trp Thr
  1   5   10

<210> 105
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 105
Ala Ala Asn Asp Thr Asn Trp Thr Val Asn Cys Thr
  1   5   10

<210> 106
<211> 13
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 106
Ala Thr Asn Ile Thr Leu Asn Tyr Thr Ala Asn Thr Thr
1   5   10

<210> 107
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 107
Ala Ala Asn Ser Thr Gly Asn Ile Thr Ile Asn Gly Thr
1   5   10

<210> 108
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 108
Ala Val Asn Trp Thr Ser Asn Asp Thr Ser Asn Ser Thr
1   5   10

<210> 109
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
peptide

<400> 109
Ala Ser Pro Ile Asn Ala Thr Ser Pro Ile Asn Ala Thr
1   5   10

<210> 110
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker

<400> 110
Gly Gly Gly Gly
  1

<210> 111
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Linker

<400> 111
Gly Asn Ala Thr

<210> 112
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 112
Asn Ser Thr Gln Asn Ala Thr Ala
  1   5

<210> 113
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      peptide

<400> 113
Ala Asn Leu Thr Val Arg Asn Leu Thr Arg Asn Val Thr Val
  1   5   10